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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CHERRY, EUNCHA P

ART UNIT PAPER NUMBER

2872

DATE MAILED: 07/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/648,413

Applicant(s)

FLANDERS ET AL.

Examiner

EUNCHA P. CHERRY

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 April 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 29 April 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4, 5, 7, 8, 10, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alavie et al in view of Abeles.

Regarding claims 1, 4, 5, 7, Alavie et al discloses an integrated optical monitoring system (see title and Fig. 4), comprising:

a package (inherent because every optical transmission system is enclosed by a housing);

an optical bench (the plane where all optical devices laid on) sealed within the package;

a fiber pigtail (11) terminates above the bench;

a tunable filter (14), connected to a top of the bench (because the filter cannot be disposed inside of the package

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without supported by the bench), that filters an optical signal supplied by the fiber pigtail (see the signal flow in Fig. 4); and

a detector (24, 26) connected to the bench (inherent) that detects the filtered optical signal from the tunable filter (see Fig. 4).

The optical monitoring system further comprises a reference signal source (36) that generates a reference signal that is filtered by the tunable filter (see the signal from 36 is fed through 12 then to 14) and the reference signal source is installed on the optical bench (inherent). The reference signal source comprises a broadband source (LED) and a filter (42) that generates a reference signal with stable spectral characteristics from broadband signal from the broadband source (column 5, lines 25-32).

The system further comprises a reference signal detector that detects the reference signal, which has been filtered by the tunable filter (24, 26); a combining filter (12), installed on the optical bench, that inserts the reference signal into a beam path of optical signal prior to filtering by the tunable filter (see the signals from LED and the fibers 11); a separation filter (22), installed on the optical bench, that separates the reference signal from the optical signal, post

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filtering by the tunable filter (see Fig. 4); and a reference signal detector, installed on the optical bench, that detects the reference signal from the separation filter (24).

However, the package of Alavie et al is not a hermetic package, wherein the fiber pigtail enters the package via a fiber feed-through.

Abeles discloses an optical transmission system (see Fig. 9a and 9b) having a hermetic package (51), wherein the fiber pigtail enters the package via a fiber feed-through (see the seals in figures).

It would have been obvious to one of ordinary skill in the art to use the hermetic package, wherein the fiber pigtail enters the package via the fiber feed-through as taught by Abeles for the purpose of obtaining proper alignment of the fiber to the rest of optical devices so that the optical signal that transmitting through the fiber is fully utilized in the optical system.

Regarding claim 8, Alavie et al in view of Abeles discloses the claimed invention as set forth above except the optical bench is smaller than 0.75 inches by 0.5 inches. It would have been obvious to one of ordinary skill in the art to select the dimension of the optical bench, because it has been held that

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discovering the optimum values of a result effective variable involves only routine skill in the art (*In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)).

Regarding claims 10, 13 and 15, the reference meets all the claimed structure as set forth above. The method recited in claims 10, 13 and 15 concerning the steps of installing, inserting, connecting and etc. of the claimed elements are inherently met by the disclosures.

3. Claims 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alavie et al in view of Abeles as applied to claims 1, 4, 5, 7, 8, 10, 13 and 15 above, and further in view of Obhi et al.

Regarding claim 6, Alavie et al in view of Abeles discloses the claimed invention as set forth above, but the bandpass filter in the reference signal source is not etalon. However, Obhi et al discloses etalon as a bandpass filter in the optical communication system (see abstract). It would have been obvious to one of ordinary skill in the art to use etalon as a filter in the reference signal source, because the combination of the tunable filter with etalon can measure a broad range of

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channels in a multiple channel system and determine noise within the signal (see column 2, lines 1-6).

Regarding claim 14, the reference meets all the claimed structure as set forth above. The method recited in claim 14 concerning the steps of installing of the claimed elements are inherently met by the disclosures.

4. Claims 9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alavie et al in view of Abeles as applied to claims 1, 4, 5, 7, 8, 10, 13 and 15 above, and further in view of Risk et al.

Regarding claim 9, Alavie et al in view of Abeles discloses the claimed invention as set forth above except for a collimating lens. Risk et al discloses a collimating lens (Fig. 13, 506) disposed in front of an optical filter (522). It would have been obvious to one of ordinary skill in the art to add a collimating lens in front of the combining filter of Alavie et al in view of Abeles for the purpose of focusing the reference signals right onto the inputs of the combining filter, therefore eliminating any signal loss in the transmission system. Also, it is well known in the art to provide a collimating lens in optical transmission systems to focus an optical signal.

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Regarding claim 16, the reference meets all the claimed structure as set forth above. The method recited in claim 16 concerning the steps of installing of the claimed elements are inherently met by the disclosures.

5. Claims 2, 3, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alavie et al in view of Abeles as applied to claims 1, 4, 5, 7, 8, 10, 13 and 15 above, and further in view of Weber et al.

Regarding claims 2 and 3, Alavie et al in view of Abeles discloses the claimed invention as set forth above except for an isolator for suppressing back reflections into the fiber pigtail. Weber et al discloses an isolator for suppressing back reflections into the fiber (see column 8, lines 7-10). It would have been obvious to one of ordinary skill in the art to add an isolator to the optical transmission system of Alavie et al in view of Abeles for the purpose of preventing back reflection of an optical signal to light source (see column 8, lines 7-10). Also, it is well known in the art to provide an isolator in optical transmission systems for suppressing back reflections.

Regarding claims 11 and 12, the reference meets all the claimed structure as set forth above. The method recited in claims 11 and 12 concerning the steps of installing, generating



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and filtering of the claimed elements are inherently met by the disclosures.

6. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alavie et al in view of Abeles as applied to above claims, and further in view of Hirabayashi et al.

Alavie et al in view of Abeles discloses the claimed invention as set forth above, except that the lens is disposed between the fiber pigtail and the tunable filter. Hirabayashi et al discloses a lens that is disposed between the fiber and the tunable filter (see Fig. 14 and column 14, lines 50-66). It would have been obvious to one of ordinary skill in the art to add the lens between the fiber and the filter for the purpose of collimating the incident light beam (column 15, lines 1-2).

#### ***Response to Arguments***

7. Applicant's arguments filed April 29, 2002 have been fully considered but they are not persuasive.

Applicant argues that the tunable filter and the detector of the prior art are not installed on the same optical bench, in that the device of the prior art is relatively large device. Examiner disagrees. The claimed limitations are disclosed by

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the prior art as set forth above. The optical bench is considered to be the plane where all the limitations are laid on. Applicant fails to distinguish the optical bench of the present invention any different than the optical bench of the prior art. Therefore, the rejection is still deemed proper.

### **Conclusion**

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to EUNCHA P.


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CHERRY whose telephone number is 703-305-0997. The examiner can normally be reached on M-F 6:30-4:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, CASSANDRA SPYROU can be reached on 703-308-1687. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Euncha Cherry  
Patent Examiner  
July 8, 2002



**Cassandra Spyrou**  
**Supervisory Patent Examiner**  
**Technology Center 2800**